Program Development

The fundamental goal of any intervention program should be to improve the quality of life of the individual with disabilities.



What does the process look like?

Select instructional strategies (cognitive, physical, alertness, behavioral, sensory, mobility, medical and age characteristics must be taken into consideration) \rightarrow select the appropriate data collection system.

What do the regulations say?



Each written training program designed to implement the objectives in the individual program plan must specify:



■ W234: The methods to be used;

The training program provides clear directions to any staff person working with the individual on how to implement the teaching strategies.



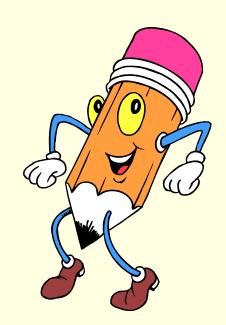
■ W235: The schedule for use of the method;

The training program provides clear directions to any staff person working with the individual about when the strategies are to be implemented.



■ W236: The person responsible for the program;

The person who will monitor the program and ensure it is being implemented appropriately, is clearly identified on the written training program. This may or may not be the same person who implements the program.



■ Additionally, the Interpretive Guidance at W237 states "The training program provides clear directions to any staff person working with the individual about the type of data to record, and the frequency which data is to be recorded."



In order to write a good program, keep in mind the following nine instructional components:

1. An understanding of learning theory (principals of reinforcement) and the relationship of instruction to the levels of learning or response competence (acquisition, fluency, and generalization).

2. All individuals with disabilities should be taught to participate at least partially in a wide range of activities and environments, resulting in the individual being perceived as a valuable and contributing member of society.



3. Instruction that requires the active engagement and interactions of individuals, rather than passive receipt of instruction and care.



4. Planning that coordinates the scheduling of individual and group instruction, and the scheduling of the various professionals considered part of the essential team.



5. Assurance that, to the maximum extent possible, instructional materials and tasks are functional, age-appropriate, and socially validated.

The following slide includes examples of a task being functional and nonfunctional, depending upon materials and activities.

| Examples of nonfunctional materials and activities: | | | |
|---|--------------------------|--------------------------|---------------------------|
| Domain | Functional Task | Nonfunctional Task | Nonfunctional Task |
| | | Because of Material | Because of Activity |
| Self-Help | Individual puts arms | Individual puts arms | Individual identifies |
| | through coat held by a | through holes in | pictures of children |
| | staff person prior to | sleeveless practice vest | putting on coats |
| | community-based | | |
| | instruction | | |
| Leisure | Individual uses switch- | Individual plays with | Individual is guided in |
| | activated tape player | switch-activated | putting pegs in a |
| | | dancing bear | pegboard |
| Community | Individual takes items | Individual bags toy | Individual watches |
| _ | from store shelves and | "food" in vocational | video of appropriate |
| | puts them in the | area | bus-riding behavior |
| | shopping cart | | |
| Vocational | Individual tears plastic | Individual sorts plastic | Individual "listens" to a |
| | off bagged items in | toy nuts and bolts into | story about community |
| | stockroom of | slots on a foam board | helper |
| | department store | | |

- 6. Selection of appropriate community settings for generalized learning.
- 7. Consistency of instruction and contingencies across various instructional personnel, including parents/legal guardians.



8. Instructional grouping such that there is a mix of levels of functioning and physical disability.



9. The ongoing use of an accurate and useful system of documenting learning. Is your data telling you what you want to know?



General Instructional Formatting

The precision of trial management is incorporated within various methodological formats.

- One set of formats is used for instructing single step behaviors, such as labeling functional objects or learning which restroom to use.
- Another set is used for learning multiple-step behaviors, such as self help activities.

Formats for single-step behaviors

Formats for single-step behaviors include at least the following procedures:

- Match-to-sample
- Sort-to-sample
- Simple discrimination learning
- Shaping

Match-to-sample

■ The match-to-sample format is used to teach the ability to select, from a variety of items, one that matches a sample item. The teacher is in effect saying, "Here is one of these; find another."

The teacher provides a model or "instance" of the item (correct choice) and an array consisting of an instance and one or more "non-instances" (incorrect choices) from which to select one similar to the model.

The ability to match an item to a given sample is a useful skill in a number of settings, including home (selecting utensils for eating), leisure (choosing an item with which to play), and community (selecting items in a grocery store) settings.



Sort-to-sample

■ The sort-to-sample format is used to teach a learner to sort an array of items into categories when two models are presented.

The first step is sorting by dimensions in which the learner sorts by the "likeness" of dimensional features, such as color, size, and shape. Initially, the determination is based on a single-dimensional difference. For example, socks or cups identical in all respects except color might be sorted.

The next step is sorting with multipledimensional differences.

Multiple-dimension sorting involves such items as toys and articles of clothing. Sorting may then progress to categories such as function of objects (e.g., sorting objects one wears vs. things one eats; or things found in the kitchen vs. things found in the bathroom).

For both match-to-sample and sort-to-sample tasks, one begins with real objects before using pictures or some other form of representation.

Klein and Stafford (1978) stated that classification competence is enhanced by experience with concrete, familiar materials before the use of symbolic materials.

Simple discrimination learning

■ Simple discrimination learning is used to teach differential selection of two items without an exemplar, such as correctly selecting a fork when requested or when needed.

On another level, discrimination learning is said to occur when a learner can tell whether two objects (e.g., socks and cups) are the same or different.

During initial stages of discrimination learning, the relevant dimension should vary while the irrelevant dimensions remain constant (Zeaman & House, 1979).

In a case such as discriminating forks and spoons, or cups and bowls, the relevant feature that varies is form.

Therefore, when teaching the spoon-fork or cup-bowl discrimination, only form should vary while all other dimensions, such as size and color, should not.

Progress to higher level learning occurs when sets of items can be correctly identified even though they vary in multiple dimensions, such as size, color, and position (Gagne & Briggs, 1979). The learner has learned that a cup is a cup despite variations in color and/or size.

Shaping

Shaping is instruction of a behavior by reinforcing successive approximations of the target behavior.

It is assumed that the learner has made or is capable of making some attempt at performing the behavior.

Shaping molds a change or extension of the attempted topography of the response.

By accepting small incremental steps, and assuring mastery of each approximation before moving on to the next, each step becomes the foundation upon which a more sophisticated response is established.

Many skills are acquired through shaping.

Walking, imitation, reaching, and grasping are examples of complex skills that started from simpler, easier forms of behavior that were built upon until more extensive, complex performances developed.

For typical children, certain skills, such as learning to walk, are learned through accidental or natural selection of the successive approximations.

Shaping, as an instructional procedure with individuals with disabilities, must be thoughtfully planned.

Shaping is a linear procedure. It always moves from current capability toward the target behavior.

Performance criteria are shifted so as to drive this advancing capability. Criteria for step advancement may be qualitative (e.g., improved use of gestures) or quantitative (e.g., working for increasing periods of time or at a faster rate).

As the steps move from easier to harder, one never progresses to a harder requirement until the easier has been mastered.

Shaping is a systematic procedure. The steps for shaping for a teaching procedure include:

- 1. Identifying the objective;
- 2. Identifying the incremental steps;
- 3. Determining the learner's current level of ability;

4. Teaching to the first criterion, providing the learner with reinforcement and correction until mastery of the initial targeted step;

5. Teaching each successive step until the learner can successfully perform the total objective; and

6. Terminating reinforcement of previous accomplishments once the learner has moved to succeeding steps.

When employing the shaping procedure, one must bear in mind that, if the approximations are too small, the procedure may be needlessly time consuming, inefficient, and boring to the learner.

If approximations are too large, instruction will be just as frustrating to the learner as if he or she had been initially presented with the requirement of performing the original objective. If the teacher finds that some of the steps are indeed too large, he or she should return to the step of the learner's last successful performance and advance again, but at smaller increments.

Formats for Multiple-Step Behaviors

Formats for multiple-step behaviors include three variations of chaining.

Much of what we teach learners makes use of skills or behaviors in various combinations or series to achieve new ends.

These skills are related by their usefulness in obtaining new objectives. When sequenced, these related skills are known as chains.

Chains may allow a complex behavior, such as tooth brushing, or a series of activities, such as moving from the classroom to the bathroom and back again.

Teaching how to form and make use of chains of behaviors is known as chaining.

The components of a chain may be individual behaviors already in a learner's repertoire, or a combination of established and new behaviors.

The various steps or components of a chain of a complex behavior are taught in a sequence.

The variations in sequencing are known as forward chaining, backward chaining, and total task or whole task programming.

One way of approaching the teaching of a chained performance is to teach the first link in the chain and then each step in its natural order of succession.

This is known as forward chaining.

If the objective is to teach a learner how to put on a sock, the teacher begins by identifying the sequential steps in putting on a sock as follows:

(1) pick up sock, (2) lift foot, (3) insert thumbs at opening, (4) separate and open hole, (5) insert toe, (6) pull to heel, and (7) pull over heel and up to ankle.

In forward chaining, the teacher instructs the learner how to do Step 1 until the learner demonstrates acquisition.

The learner then is instructed in the performance of Step 2 (with Step 1 expected to occur). Once acquisition of Step 2 is demonstrated, the teacher moves on to Step 3 (with Steps 1 and 2 expected to occur).

This progression continues in succession until the learner can perform all the steps in a coordinated series resulting in the ultimate objective of putting on the sock. As a rule, steps beyond those focused on for instruction should be "walked through" with the learner.

This gives the learner an opportunity to continuously view the targeted behavior in its entirety.

This process has been referred to as "progressive chaining" (Sternberg et al, 1986).

An alternate choice is backward chaining.

In this case, instruction begins with the last step in the chain and proceeds in reverse order until the learner can perform all the steps in succession. In the case of teaching the learner to put on a sock, the teacher first performs Steps 1 through 6 and requires the learner to perform only Step 7, the last step. Instruction proceeds on Step 7.

Once the learner demonstrates acquisition of Step 7, the teacher performs Steps 1 through 5 and requires learner performance of Steps 7 and 6 (with instruction of Step 6 only, and expectation of performance on Step 7).

The teacher continues in this reverse order until the learner shows acquisition of the entire chain. Such instruction continues in reverse order until the learner is finally presented with only the sock and must independently perform all the necessary steps. A final variation of chaining is total task programming.

In this approach, the learner begins with the first step, but every step in the sequence is trained on every trial until the learner performs the whole task to a predetermined criterion (Bellamy et al, 1979; Gold, 1976).

A trial is defined as an opportunity to perform the entire chain, not only a single step or subset of steps of the chain.



At the beginning of each trial, the learner is given the instructional cue for performance of the entire chain. As the learner begins with the first step, he or she is encouraged to continue with the succeeding steps.

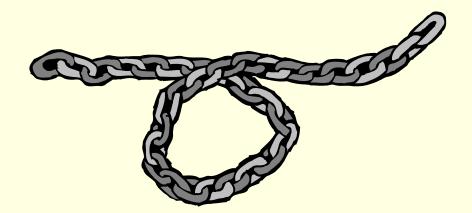
As the learner confronts a step he or she cannot perform, the teacher provides assistance through that step.

For each trial, the teacher records the number of steps the learner performed independently and the number that required assistance.

Bellamy et al. (1979) suggested that difficult steps be taught in isolation until an accuracy rate of 80% is achieved, at which point the responses may be chained together.

This approach seems to include a reasonable use of massed trials for difficult steps.

In a review of various chaining options, Spooner and Spooner (1984) concluded, "In the final analysis, it may be that different learners do better with different procedures, and that when different tasks are used (e.g., dressing vs. vocational) different results are obtainable."



Alternative Instruction

Some individuals with profound disabilities have primary needs that require alternative instruction. There are four primary needs:

1. Organic Health Care: This refers to nutritional, respiratory, gastrointestinal, seizure and medication, cardiac, and body temperature control needs.

2. Structural Needs: This refers to positioning needs in order to prevent further bone, joint, muscle and skin deterioration.

Correct positioning is important in order to facilitate both voluntary motor control and sensory input.

3. Social-Emotional needs: Some individuals with profound disabilities require large amounts of caregiving time due to their health and structural needs (respiratory distress, gastrointestinal disturbance, physical discomfort, etc).

This may elicit and typically requires caregiving behavior from staff, such as holding, rocking, touching, and calming vocalizations.

4. Cognitive, Sensory, and Communication Development: This refers to an attempt to increase an individual's alertness to the environment, and their interaction with people and objects.

Prompt Systems

First instances of a new behavior can be effected by teacher assistance known as prompting.

For more information, refer to the "Prompt Systems" presentation.

Reinforcement

Reinforcement is the underpinning of the instructional interaction between a teacher and a learner.

For more information, refer to the "Reinforcement" presentation.

Be creative!

When possible, all activities except personal or private hygiene should be done in multiple environments, including in the community.



Remember:

Locations and interactions should be determined by the individual's health, physical state, and behavioral responses to those people and settings, rather than preset by staff beliefs.

What comes after program development?

See the presentation on Data Collection for the answer!





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Prompt Systems

First instances of a new behavior can be effected by teacher assistance known as prompting.

Prompting

When instructing a new behavior, an immediate problem will occur after delivery of the instructional cue for performance if the learner does not respond.

This is to be expected when asking a learner to perform a response that is not part of his or her behavior repertoire. Skinner (1968) referred to this as the "problem of the first instance."

This first instance must be occasioned so that it can be reinforced to increase the probability of continued performance, so that an incorrect response can be corrected, or so that an approximation of the response can be shaped.

First instances of a new behavior can be effected by teacher assistance known as prompting.

A prompt may be placed in relation to different components of a trial.

Various antecedent prompts can augment the antecedent event(s), and various response prompts can be paired with the instructional cue to assist response performance.

Antecedent prompts

Antecedent prompts are alterations of, or additions to, the instructional material to focus learner attention on the natural cue(s) for making correct responses.

There are a number of categories of antecedent prompts, including relevant feature prompts, proximity prompts, context prompts, errorless prompts, and modeling.

Relevant Feature Prompts

Relevant feature prompts are those by which the teacher "cues" the feature of the task materials on which the learner should focus to make the correct response.

Use of this procedure teaches the learner to distinguish the features that define a correct response.

The teacher may use various means, such as color, size, and shape, to focus or prompt the learner's attention by highlighting the relevant feature.

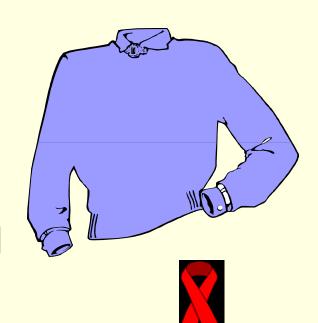
For example, if the learner is being instructed to discriminate a spoon from a fork, the relevant feature of the spoon is the bowl portion, and of the fork, the tines.



In teaching this discrimination, these are the places the antecedent prompt should be placed, instead of the handle (e.g., the bowl and tines could be of different colors).



In teaching a learner how to put on a sweater or T-shirt, the prompt for determining front from back should be placed on the label at the back (e.g., a brightly colored ribbon).



A typical scenario in the use of relevant feature prompts, as with all prompts, is to eventually fade them so that the natural cue (e.g., the label of a shirt) will indicate to the learner what behavior to exhibit.

Proximity Prompts

Proximity prompts are employed by varying the placement of materials on the instructional plane (Lovass, 1981).

If the learner is being taught the spoonfork discrimination (with fork the correct response), during initial training trials, the two materials might be placed on the table such that the fork is immediately in front of the learner, with the spoon several inches above it.

Over trials, the distance between the two materials would be reduced until they were finally presented in parallel fashion.



Context Prompting

Context prompting is presentation of instructional materials in an array as similar as possible to that in the natural setting.

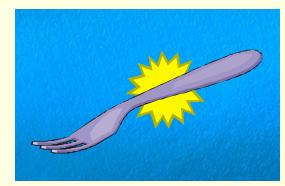
For example, if the learner is being taught "fork," the array within which the learner should learn to select the fork is one containing a fork, spoon, and knife (e.g., a utensil tray in a cafeteria, as this is the array from which he or she must select the item in the natural environment).



Errorless Prompts

Errorless prompts are exaggerated, external, and basically irrelevant cues that dramatically draw the learner's attention to the correct response.

For example, in the spoon-fork discrimination ("fork" being the correct response), a large sheet of colored paper might be placed under the fork as trials are conducted.



Once the learner stabilized correct responding, the size of the errorless cue would be reduced over successive trials or sessions until it was removed altogether.



Modeling Prompt

A modeling prompt is when another individual, such as a teacher or peer, demonstrates the behavior to allow for learner imitation.

For example, the learner might watch the teacher put toothpaste on a brush and then be asked to imitate the process.



For modeling to be effective, a teacher should follow some basic guidelines (Baer, Peterson, & Sherman, 1967; Bandura, 1969; Parton, 1976).

- First, one must gain the learner's attention before presenting the model.
- The instructional cue for learner imitation should be a simple generalizable cue, such as a gestural or verbal "Do this."

■ During modeling, the learner must have a clear view of the demonstration, and must be made aware of the position of any materials and how they are applied or handled.

■ The pace of the demonstration should be such that the learner can clearly discriminate the order and interdependence of each step.

■ When initially modeling a series of actions, the individual should keep the length or complexity short and simple; extensions may be added as successful imitations occur.

■ Finally, when directionality of the response is important, both the teacher and the learner should face the same direction.

Effective antecedent prompting is characterized by the following guidelines:

Prompts should focus individuals' attention on the natural cue, not distract from it. Prompts should be as weak as possible.

The use of strong prompts when weak ones will do is inefficient and may unnecessarily prolong instruction.



Prompts should be faded as rapidly as possible.

Continuing to prompt longer than necessary may result in artificial dependence on the prompt rather than on natural cues.

Abrupt removal of prompts, however, may result in termination of the desired behavior.

Fading is conducted by progressively and systematically providing less frequent intrusive or intense prompts over the course of instruction.

Unplanned prompts should be avoided.

A teacher may be unaware that learners are being prompted by facial expression or focal inflection (Alberto & Troutman, 1990).

Consider the example of a teacher involved in teaching a learner to select a fork.

The teacher may be unaware that his or her facial expression, as the learner's hand approaches the correct or incorrect utensil, may be prompting the learner's correct selection rather than the shape of the utensil.



Response prompts

Response prompts are types of assistance for actual behavior performance.

They require the teacher to assist the learner in the act of producing the response.

There are at least five types of response prompts: full physical prompts, partial physical prompts, model prompts, gesture prompts, and verbal prompts.

Full Physical Prompts

Full physical prompts provide total guidance to the learner.

The teacher actually puts the learner through the entire behavior, thereby providing assistance for each movement necessary for successful performance.

Partial Physical Prompt

A partial physical prompt is physical assistance to initiate or provide direction for performance.

As soon as the teacher feels the learner engaging in the response, the assistance is terminated.

Model Prompt

A model prompt is a response prompt when its purpose is to occasion coactive imitation by the learner.

The procedure is implemented to increase a learner's ability to imitate a response when given a concurrent (continuing) model presentation.

Gesture Prompt

A gesture prompt is a gesture to signal response initiation, as in pointing to or tapping the target instructional material(s).

Verbal Prompt

A verbal prompt is assistance provided beyond the initial verbal instruction (e.g., encouragement ["You are doing fine." "Keep going."]; hints ["You put it on your foot."]; or questions ["How do you turn on the radio?"]) which further stimulates learner consideration and interest, or provides information for learner initiation and performance of the response.

A verbal hint is also referred to as an indirect verbal prompt.

Systematic Use of Response Prompts

A systematic use of response prompts should be employed to provide consistent assistance to learners.

Guidelines for their systematic use have been proposed for both single prompts and coordinated use of various prompts, when it is necessary. One systematic use of a single response prompt is known as the time delay procedure.

The systematic use of multiple response prompts may be seen in the system of maximum prompts, the system of least prompts, and graduated guidance.

Systematic use of a single prompt

When a teacher works with a learner to instruct a skill, he or she may give an instruction such as "Michael, pull up your pants," and then wait for the learner to perform the response.

After waiting, if the learner does not respond, the teacher should help him perform the task.

The time delay procedure is an approach to systematizing the amount of time the teacher waits before providing assistance.

If the skill being taught is completely new to the learner, the teacher may begin the instructional session at a zero-second delay: The teacher gives the instruction and the prompt simultaneously.

In that way, the learner learns to associate the verbal instruction and the nature of the response called for.

After several repetitions at zero-second delay, or simultaneous presentation, the teacher begins to give the learner time to respond before he or she administers any prompt.

The teacher then systematically increases the length of delay between the verbal instruction and the assistance. This is known as progressive time delay.

Systematic Use of Multiple Prompts

To use the system of maximum prompts, the teacher begins by providing the learner with the most assistance possible.

Gradually, the amount of assistance is reduced. The amount or intrusiveness of the prompt is faded as the learner's independence increases over sessions.

For example, instruction begins with a full physical prompt where the teacher physically assists the learner through the entire response while restating the instruction. The teacher performs the task hand-in-hand with the learner, providing errorless practice.

After one or more sessions of full guidance, the teacher reduces the amount of assistance by employing a partial physical prompt.

After sessions in which the learner can successfully respond with a partial physical prompt, the teacher reduces his or her level of assistance to the use of a less controlling prompt, such as a gesture or verbal instruction.

The goal is for the learner to perform the response without any assistance when given an instructional cue.

System of Least Prompts

The system of least prompts operates from the opposite perspective. Instead of beginning instruction with the greatest amount of assistance, the teacher begins by providing the learner with the least amount of assistance necessary.

The learner is provided the opportunity to perform at his or her highest level of independence on each occasion before assistance is increased within a trial (Doyle et al., 1988).

For example, instruction begins with a presentation of the materials and a request for the response.

If the response is not initiated after 3 to 5 seconds, the teacher increases the amount of assistance in a sequential manner (e.g., from providing only the instructional cue to providing the cue plus a gesture simultaneously).

If the increased prompt is still insufficient to occasion the response, the level of assistance is increased to a partial physical prompt, and so on, until the response is made by the learner or until the teacher makes use of the most assistance possible, a full physical prompt.

At each subsequent request (trial) for the response, the teacher again begins at the instructional cue and progressively increases assistance as needed.

Response prompting systems are most often used in teaching activities that require a motor movement, such as dressing, vocational tasks, play tasks, and other tasks that involve material manipulation (as in sorting by size or color) or material selection to indicate receptive language skills.

Although the two prompting systems have common elements, there are several practical differences in their application.

As noted, when using the system of maximum prompts, each teaching session is conducted at one assistance level, but in subsequent sessions the assistance level is decreased.

In the system of least prompts, each opportunity for performance (trial) begins at the level of instructional cue, regardless of how much assistance was required on the previous trial. As maximum prompts initially provide greater physical assistance by the teacher, they are thought to be most appropriate for use during the acquisition stage of learning.

Decreasing assistance provides more intensive instruction at an earlier point in time, thereby minimizing errors and reducing time between the instructional cue and the learner response (Schoen, 1986).

The least prompts procedure is thought most useful at higher levels of learning, such as fluency and generalization (Csapo, 1981).

Graduated Guidance

Graduated guidance, or constant contact, provides an amount of physical contact by the teacher that is necessary for the learner to correctly complete a response (Foxx, 1981).

The amount of physical assistance given can be adjusted throughout the trial depending on the learner's performance.

The use of a graduated guidance strategy has been found to be effective in a number of skill areas, especially motor skill development (Reid et al., 1991).

Graduated Guidance

There are three components of graduated guidance.

The first is full graduated guidance.

During this procedure, the teacher keeps his or her hands in full contact with the learner's hands. The teacher puts the learner through the entire behavior until the learner offers no resistance to the movement, or begins to initiate the movement on his or her own. At this point, partial graduated guidance is offered. This may be done in one of two ways.

The full contact by the teacher may be moved up the learner's arm, to the wrist, then the elbow, then the upper arm, and finally to the shoulder.

In the second method of partial graduated guidance, the teacher uses only his or her thumb and forefinger on the learner's hand or wrist to assist in movement (Foxx, 1981).

Again, guidance is given by the teacher when resistance to movement is felt.

In both methods, the learner begins to take more responsibility for the actions.

If the action is not initiated by the learner, if resistance is felt, or if an incorrect action is started, the teacher may return to full graduated guidance.

Once the learner is reliably performing the behavior with the least amount of partial graduated guidance, the teacher may use shadowing.

With this procedure, the teacher does not touch the learner. Rather, the teacher keeps his or her hand within an inch of the learner's hand throughout the trial until the behavior is completed.

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Therefore, if assistance is needed, it can be easily provided.

As the learner continues to perform the behavior, the teacher may move further away, thereby allowing for more independent movement.

With any response prompting system, the goal of instruction is for the learner to comply with the instructional cue when presented by the teacher.

Such a goal, however, can result in a learner who still relies on the teacher for initiation and/or correction of his or her performance.

Although response to a teacher-delivered cue may be appropriate in certain situations, such as the classroom or community, it does not provide sufficient independence for adolescents or adults.

True independence is the ability to respond to cues that occur naturally in the environment that signal the learner to perform a particular behavior or that indicate that a behavior is being performed incorrectly.

For many learners with disabilities, however, the extent of educators' current knowledge of instruction is such that the learners may be unable to perform certain behaviors or series of behaviors independent of additional cueing.

One solution is the use of partial participation (Baumgart et al., 1982; Ferguson & Baumgart, 1991).

Partial Participation

Many learners with profound disabilities will be unable to perform specific steps of a task.

Using the principle of partial participation, a learner would be encouraged to participate in the display of the step(s) in any manner in which he or she is capable. The full demonstration of the step and overall task, however, would be accomplished by the teacher.

The teachers might use full physical guidance with the learner, or perform the remaining components of the task.

For many learners with profound disabilities, partial participation will not involve an actual display of a motor component of the step(s), but rather basic developmental skills associated with the step(s).

For additional information on basic developmental skills, refer to the "Profound Disabilities" presentation.



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Reinforcement

Reinforcement is the underpinning of the instructional interaction between a teacher and a learner.

Reinforcement serves two major purposes in the instructional process.

■ First, it provides a motivator for learner performance. The learner is motivated to comply with the instructional cue to obtain the reinforcing item or event being offered.

If the item or event is truly a reinforcer, it will increase the future rate and/or probability of the learner's producing the behavior.



If the item or event does not have this effect, it may be only a one-time satisfying occurrence (reward), but one that is not a useful instructional tool over time.

■ The second purpose of reinforcement, and one that is especially relevant for individuals with disabilities, is to train the understanding of cause and effect.

The learner learns that the response he or she makes (cause) results in the reinforcer (effect).

For the learner to make this connection, the delivery of the reinforcer must immediately follow the requested behavior (or, at times, occur during the behavior), and its delivery must be contingent upon performance of the behavior.

This understanding is the underpinning of the instructional interaction between a teacher and a learner.

The learner is, in effect, learning the process of learning.

Our purpose in this presentation is not to provide a full review of reinforcement theory; however, several critical points need to be remembered.

The greater the level of a individual's disability, the more difficult reinforcer identification becomes.

With many individuals with profound disabilities, identifying reinforcers will likely challenge a teacher's creativity and problem-solving skills.

It is important to remember, however, that every individual is reinforced by something.

Also, there is no one item or event that will reinforce every learner.

Individuals with disabilities may make choices (e.g., playing with certain toys), show preferences (e.g., food items), or actively seek out opportunities to obtain certain events (e.g., pressing a switch to turn on a tape recorder).

These consequences, however, may not necessarily act as reinforcers for performance of other behaviors.

In the event that a reinforcer is determined to increase the occurrence or rate of a behavior, the teacher must be aware that, once the learner has become satiated on that specific reinforcer, responding and its accuracy will decrease.

This is not a function of an inability to learn, but a function of the learner's satiation on the reinforcer.

If possible, it is important to identify a number of potential reinforcers for the learner; this will allow the teacher some flexibility and, at the same time, decrease the probability of satiation.

A Reinforcement Assessment can assist in identifying a number of potential reinforcers for the learner.

If primary reinforcers (e.g., edibles) are initially selected for use, it is appropriate to plan for a transition to the use of secondary reinforcers (e.g., preferred activities).



Typically, this is accomplished through a pairing of primary and secondary reinforcers.



It must be remembered that, in teaching individuals with disabilities, the ultimate goal is for the learner to be motivated by reinforcement that naturally occurs due to performing a behavior.

Therefore, activities that have naturally occurring reinforcing consequences should be included in instruction.

For example, when teaching the learner to ask for a glass (e.g., by pointing to the object), there should be something reinforcing (i.e., juice) in the glass so the learner may experience the reinforcing result of using the glass appropriately.



Finally, it is important to attempt to reduce the number of reinforcers that are systematically being provided to a learner.

Such thinning of the schedules of reinforcement delivery will hopefully assist a learner to accept delayed gratification for increasing amounts of performance. It will also establish a more normalized type of reinforcing environment.

Correction During a Trial

When the learner's attempt at behavior performance is not correct, it should <u>not</u> be reinforced.

Rather, it should be corrected by the teacher in such a manner that the learner experiences the correct performance and its resulting reinforcement.

For many individuals with profound disabilities, this correction often requires that the teacher put the learner through the requested behavior in a hand-over-hand manner.

There are several variations of correction procedures. Following are two examples.

The first procedure is recommended when the learner is being trained on a single step of a task analysis:

- 1. Immediately interrupt the learner's incorrect response.
- 2. Repeat the instructional cue paired with the activity cue that preceded the incorrect response.
- 3. Give whatever additional assistance is necessary to ensure a correct response by the learner.

- 4. Immediately reinforce the correct response.
- 5. Repeat the procedure, this time fading the additional assistance, to provide additional practice on the missed step.
- 6. If the learner meets the performance criterion for the step, continue on to the next step.

The following procedure is recommended when the individual is being trained concurrently on a number of steps of a task analysis (e.g., in vocational training procedures):

- 1. Immediately interrupt the learner's incorrect response.
- 2. Go back two steps in the task analysis and give the appropriate instructional cue for that step.
- 3. Have the learner repeat the two steps and the missed step, providing enough assistance to ensure correct responses on all three steps.

4. Reinforce each correct (assisted and unassisted) response.

5. Repeat the procedure to provide additional practice on the missed step.

6. Proceed to the next step in the task analysis.



Send us your comments or questions at fsb@dhw.idaho.gov